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ABSTRACT

Two major concerns should be considered as the federal effort to collect educational data is redesigned. The concerns involve the roles performed by school personnel and the effect of student characteristics on achievement. Obtaining accurate measures of school district personnel--how many, what type, and what they do--is difficult. However, measures of this type of process, particularly administrative efforts, are important. In general, educational institutions tend to respond in symbolic ways to community needs--by hiring a director of evaluation, for example--but in ways that have very little effect on the actual productivity of a system. It is important to observe administrative effort during times of reform or declining enrollments. Improvements are also needed in the categories used to collect data on school personnel and in the ways in which school staff really spend their time. As for the comparison of private and public schools, data collection has previously focused on students' output, or achievement. Research efforts should examine whether public and private school families are different before entering private schools, or whether the choice of private schooling fosters certain attitudes, values, and behavior. (GDC)

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Two Suggestions for NCES Data Collection

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This paper suggests two areas for consideration as the federal data collection effort is redesigned. It is not intended to assess the overall federal effort, but rather to identify two specific policy questions which currently available data do not handle fully or appropriately. The first question is concerned with measures of process: How many and what type of personnel are employed by school districts and what do these personnel do? The second question is concerned with input measures. It is an old question: What are, and how do, various student input characteristics affect output, particularly student achievement? Output measures, per se, are not dicussed.

1. LEVELS OF FUNCTIONAL EFFORT

The general concern in the first question is with measures of functional effort in school districts. How many and what type of personnel are employed by school districts and what do these personnel do? The question is basic and deceptively simple; but getting accurate measures is difficult.

Of most concern here is the level of effort devoted to the administration of schools and school districts. There are two main parts of this discussion. The first part focuses on the importance of getting reasonably good measures of administrative effort; and the second part discusses how this might be done.

Indicators of administrative effort are useful measures in any type of organization. There is a natural tendency for the administrative part of an organization to grow and, because the marginal contribution of administration to productivity is difficult to ascertain, internal checks

on growth are limited. In educational organizations, it is particularly important to get good measures of administrative effort. In addition to general problems of assessing the marginal contribution of administrative activity to the organization's welfare, there is the more specific problem in education of a production process that, itself, is not well understood. This compounds the problem of factoring out the extent to which administrative efforts, over and above other factors, contribute to productivity.

Although the technology of educational institutions is not well understood, these institutions still must be responsive to community needs. Educational institutions are important to society. In them reside the hopes of society for its future as well as the repository of the best of its past. Society has placed great trust in them and, not surprisingly, looks for verification of this trust. In general, educational institutions respond in symbolic ways rather than through actually modifying some central aspect of their process or their product. (Meyer and Rowan, 1977.) It is therefore possible for educational institutions to be very sensitive to consumer/community pressures, but to do so in ways that have very little effect on the actual productivity of the system. For example, simply assigning an individual to serve as a Director of Evaluation, or Community Relations, or Bilingual Education or Programs for the Gifted, can go a long way in satisfying demands for responsiveness to community concerns. Administrative responses are immediate and visible. Changing the "production process" is not only more difficult, but the effects of any changes on the system's output are uncertain and long term. To some extent this is functional for the organization. The central production tasks, i.e., the teaching and

learning concerns, are buffered from the whims of the environment. But it also suggests that the contribution of administration to productivity may be less than what is commonly assumed.

A close watch should probably be kept on levels of administrative effort during times of reform and during periods of enrollment decline. The typical way in which almost all organizations respond to productivity problems is to improve management. In general, this makes sense. One of the important functions of management is to design production processes so that at least a minimum quality of work is performed. If the quality is lower than what it should be, it is management's job to do something about it. But if the link between administrative activity and production activity is not clear (Hannaway and Sproull, 1978), i.e., if it is unclear what administration should do, or is doing, to improve education, problems can emerge. Better management can simply become equated with more management, i.e., more supervisors, more rules, more requirements. Their immediate effect on satisfying external pressure for the system "to do something" may be great, but their longer term effect on educational productivity, i.e., student learning, may not be very powerful.

Unlike periods of enrollment growth, where increases in the size of administration may not be very costly for the organization (i.e., the proportionate expenditure on administration may not change), the cost of an increase in administrative size during decline could be quite high. Administration would increase relative to the other parts of the organization implying a reduction in real expenditures on direct service, i.e. student contact activities. Indeed, findings have suggested that during periods of enrollment decline the relative size of the

administrative apparatus of school districts is greater than it is during growth (Hannan and Freeman, 1975; Hannaway, 1977; Freeman, Hannan and Hannaway, 1977).

If it were possible to measure the productivity trade-off between direct services (i.e., teaching) and administration, one might be able to calculate an optimal resource allocation scheme. But this is not possible. It seems reasonable to speculate, however, that beyond some base level of administrative support, the marginal productivity of a teacher is greater than that of an administrator. After all, a teacher impacts directly on student learning.

The growth of administrative systems, it should be stressed, is not necessarily due to the self-aggrandizement of administrators. No doubt many reformers truly believe that more administration leads to better education. And, indeed, some administrative practices may have a significant positive effect on educational productivity. Unfortunately, however, we do not have a good handle on the benefits of either different types of administrative activity or varying levels of administrative effort. Some information that we do have on administrative behavior at the central office, however, suggests that administrators prefer to engage in activities that relate to external agencies rather than in activities that relate to teaching and learning concerns in the system (Hannaway, 1985). This, of course, is very troublesome. It suggests that externally generated reforms could have significant effects on the volume of administrative activity and little effect on the conduct of teaching and learning activities. Our understanding of the relationship between administrati on and educational productivity, or more generally between different levels of personnel effort and productivity, can be

improved by collecting and analyzing data that permit direct investigation of these issues.

Two different types of data are discussed below. Each represents a different level of data collection and each would provide information to similar questions but on different levels of specificity. Some of these questions are: What is the variation in the distribution of manpower effort across school districts and what determines different allocations? How do different distributions and levels of effort contribute to educational productivity. Sampling and cost considerations would vary according to the type of data needed and the specificity of the question.

a). Counts of Personnel in Different Personnel Categories.

This seems like fairly straightforward data; but personnel data can be categorized very differently. One way, for example, is to report the number of individuals in each district with different certificated status (e.g., the number of individuals certified as teachers, psychologists, administrators, etc.). But this can be very misleading for, at least, two reasons. First, individuals do not necessarily carry out functions defined by their certificated status. For example, an individual with an administrator credential could be teaching; or a teacher might be working on special project for the superintendent rather than in the classroom. Second, states use different definitions for the same category. What may be defined as an administrator is one state may be defined as a curriculum supervisor in another. Cross state comparisons, therefore, can be very misleading.

Personnel might be categorized in more useful ways. One possibility is to categorize personnel according to how directly they contribute to student learning. Those who spend a majority (or some other determined amount) of their time in direct interaction with students could be one category; those who contribute indirectly, e.g., principals and curriculum supervisors, could be a second category, and those who provide support for the system but who are not concerned with teaching and learning activities, e.g., personnel directors and accountants, might be considered a third category. It clearly would take some thinking to work out meaningful groupings, but the main point is that some accounting based on the extent of direct contribution to student learning could be useful and it should be done in a consistent way across states.

Some current personnel categories, such as 'other administrative' and 'other instructional' are quite large in some states and quite small in others (Digest, p.49-50). For example, in New York there are nearly 4 times as many 'other instructional' personnel than there are principals and in Florida there are more than 3 times; but, in Connecticut and Missouri there is not one person in this personnel category. Who are these 'other instructional' professional people and is it reasonable to expect that they make a direct contribution to student achievement? Is it possible that New York (and some other states) provides some additional and different instructional support for students that Connecticut and Missouri do not? If so, what is it and is it worth it? Or, do these figures, more simply, reflect the different way states certify and therefore categorize personnel?

Without good measures of the type suggested here, it is impossible to analyze how different reforms or different state administrative

systems affect the allocation of personnel effort at the local level or to understand completely why reforms might (or might not) affect student achievement.

b). Time allocation of individuals. The personnel categories discussed above would give gross measures of functional effort across districts and states. Finer grained information, e.g., how much time administrators spend on different types of issues, could give a better picture of the types of work demands placed on educational professionals and how they respond to these. This type of data, however, is both difficult and expensive to collect. Information about districts under (a) could be collected regularly in a standard format across states; but the micro level data suggested here should be collected from a small sample of individuals/ districts/ states on only an occasional basis.

Examples of questions that this type of data can inform are: To what extent are principals focussed on teaching/learning concerns and to what extent on purely administrative chores? What are the administrative costs of categorical aid programs? How much time do principals/ counselors/ teachers spend working with parents? All these questions are concerned with how educational professionals themselves allocate their attention and effort. For instance, individuals serving as administrators of a special education program could be spending varying amounts of time talking to accountants, trying to keep track of the dollar flow; or to teachers, working out special classroom arrangements; or with parents, coordinating school and home support. One would expect that these activities contribute differentially to student learning and,

from a policy perspective, we would want to structure the demands of the job in such a way that the greatest learning possible would take place. Information on task demands and how they are handled could help do this.

There are clearly some methodological problems in collecting time allocation data. (See Hannaway, forthcoming.) But it would probably be worthwhile trying. One way not to get estimates of time allocation is to ask respondents how they spend their time. At least in the case of administrators, this method is beset with biases. Managers are not very accurate reporters of what they do, probably because they engage in many varied tasks most of which last only a few minutes. The mental exercise they are asked to perform in making an estimate is complex; they must first recall and then aggregate thousands upon thousands of short tasks. Their estimates are based on recall and what managers are likely to remember are those tasks that are particularly vivid in their memory and those that fit with preconceived notions. Therefore, they tend to overestimate tasks they found particularly rewarding (or painful) and those tasks that conformed with their normative expectations of what someone in their position should do. When aggregating their tasks, they tend to underestimate tasks of short duration even though there may be many such tasks that together account for a large fraction of their time.

One way to proceed, which would be both reasonable methodologically and not terribly costly would be to use the diary method. This method has been used successfully with both managers (Stewart, 1967) and college presidents (Cohen and March, 1974). Either the respondent herself or her secretary would keep a log of daily activities. A selected number of individuals representing a personnel category, say, special education administrators , might keep track of what they do for one day. The

results from a reasonable sample for any particular day could be quite informative. Similar studies of the time allocation of other types of personnel, e.g., principals, could also be done. This type of study would require more thought, organization and coordination than a standard survey, but the results might be well worth the effort.

Both of the above suggestions for data are based on the simple assumption that in order to get a better understanding of the determinants of educational output we should get a better understanding of educational process. There are researchers who are asking similar questions at the classroom level which, no doubt, will be fruitful. I am suggesting that information about the direction and intensity of functional effort across the district as a whole could be valuable itself as well as a complement to classroom level information.

2. PUBLIC AND PRIVATE SCHOOL INPUT

There has been a considerable amount of attention and debate given to the relative success of public and private schools in producing cognitive achievement; i.e., the output of the two systems. Much of the debate and controversy has centered on the input. Critics argue that private schools do better because they are working with different types of students and that standard background measures, such as those used by Coleman, Hoffer and Kilgore, do not capture these differences. This is an important public policy debate and one that current data do not allow us to sort out completely.

The only way to get accurate measures of the effect of private schools (or different types of public schools) is to factor out in a

completely reliable way self°2Dselection effects. This can be done with some confidence statistically; but collecting parent/ student measures prior to schooling choices would be preferable. The basic questions is: Are private school students (and parents) different from their public school counterparts before they even enter private schools? For example, does private school selection, by itself, indicate higher levels of parent and student motivation and commitment to education; or do private schools, and, perhaps, the very act of choice by parents foster certain attitudes, values and behaviors?

To truly distinguish self-selection effects from school effects requires a different type of data collection effort where, perhaps, a small number of communities are selected and the attitudes, experiences and choice behavior of members of those communities, i.e., parents and students, are studied over time. From this, it would be possible to estimate the extent to which public and private school parents/students are different as well as the experiences that contribute to parents opting out of (or staying in) a particular school or school system.

Such an effort should not be considered a substitute for data already being collected on private and public school comparisons, but rather an additional effort to address a very specific and very basic question about the characteristics of public/private school input.

Input differences may also be important for teachers. Are individuals with different characteristics and values attracted to public and private school teaching? How does the culture of the school affect teacher behavior and attitudes. Answering these questions would also best be done using some type of longitudinal data collection design.

While the returns from such an effort would probably not be immediate, studying teachers in this way could be quite profitable.

It has long been recognized that professionals are affected by normative expectations communicated during their training and on the job, especially their first job. And it is not unreasonable to expect that the normative structure of a school is affected by its institutional arrangements. Consider, for example, the different roles that parents play in different types of schools and the likelihood that parents convey expectations and rewards different from other involved parties, e.g., state bureaucrats or union representatives. If information were collected from teachers over time, say, in a community study, it could lead to a better understanding of the determinants of teacher behavior. That is, it would be possible to track teacher characteristics/ behaviors and estimate the extent to which these are affected by institutional arrangements and parent/student characteristics.

This paper focussed on two weaknesses in the current data collection effort of the federal government. One was concerned with a process measure and the other with an input measure. These weaknesses limit our ability to address policy questions about the educational process and how it is affected by various reforms and institutional arrangements. There was no discussion of output measures. The responsibility of the federal government in this regard is less clear. While some overall assessment of the state of educational productivity in the country is within its purview, education reforms are being formulated and administered at the state and local levels. And it is information at the school level that will be most useful in evaluating and refining the reform effort. This

level of information is probably best collected by states and districts who will also be the users.

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